

Muhammad Sabbir Hossain

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Summary

UIU CSE graduate specializing in Machine Learning and NLP, with research experience in Bangladeshi dialect speech recognition using LoRA-fine-tuned transformers and a peer-reviewed publication in computer vision. Competitive programmer with 2500+ solved problems and strong backend system design experience.

Education

B.Sc. in Computer Science & Engineering

United International University (UIU), Dhaka, Bangladesh

Jun 2021 – Dec 2025

Overall CGPA: 3.91 / 4.00

Thesis & Publications

Bangladeshi Dialect Speech Recognition – Undergraduate Thesis

PyTorch, Transformers, LoRA, NLP

- Developed an advanced speech recognition system for Bangladeshi dialects using multimodal NLP and audio data, bridging regional communication gaps.
- Applied transformer-based architectures and LoRA fine-tuning for dialect adaptation, achieving high accuracy and real-time performance.

Bangladeshi Rice Grain Classification – Peer-reviewed Publication

PyTorch, OpenCV, Image Processing, Transfer Learning

- Developed a CNN-based rice grain classification model with a custom-curated dataset, OpenCV preprocessing, and transfer learning techniques.

Projects

Nostalgia – Social Media Platform for Elderly Users

🔗 GitHub

Django, Node.js, MongoDB, MySQL, Microservices

- Developed NID-based identity verification with facial recognition and ML-driven recommendations.
- Secured communication using Node.js, Socket.IO, JWT, and two-step authentication.

Caregivers – Platform for Compassionate Support

🔗 GitHub

Django, JavaScript, Bootstrap, MySQL, NLP

- Built a full-stack caregiver platform with task management, calendar, chatbot, and email verification.
- Developed advanced multi-criteria search, autocomplete, and role-based administrative management.

Skills

EXPERT

C++, Python, Java, SQL, Django, Git

PROFICIENT

AI/ML: PyTorch, YOLO, OpenCV, Hugging Face, RAG

Languages: C#, .NET Core, JavaScript, React, Node.js, PHP

Backend/APIs: REST APIs, WebSockets, Microservices, System Design

Databases: PostgreSQL, MongoDB, Kafka

DevOps/Tools: Docker, AWS (EC2, RDS, S3, Lambda), Linux, Agile

Competitive Programming

Codeforces Solved: 1900+ | Max Rating: 1578 (Specialist)

handle: pagol

CodeChef Solved: 100+ | Max Rating: 1854 (4-Star)

handle: sabbir772

Achievements

UIU CSE Project Show

2022–2024

1st in Advanced OOP; 2nd in System Analysis & Design; 3rd in DBMS & SEL

ICPC Asia Dhaka Regional

2024–2025

Participated 2× (2024, 2025);

ML Olympiad 2024 (10th) | IUPC Ranks

2024–2025

BUBT 23rd, MU 42nd, KUET 50th;